

WHAT IS CLAIMED IS

1. A method of screening, comprising:
determining an effect of a candidate agent on binding of an oncogenic E6 protein to a
5 polypeptide comprising the amino acid sequence of a second PDZ domain from MAGI-1.
2. The method of claim 1, wherein said binding is detected in both the absence and
presence of said candidate agent.
- 10 3. The method of claim 1, further comprising determining an effect of a plurality of
candidate agents and identifying a candidate agent that reduces said binding.
4. The method of claim 1, further comprising testing said agent in a cellular assay for
HPV oncogenicity.
- 15 5. The method of claim 1, wherein said candidate agent is small molecule, antibody or
peptide.
6. The method of claim 1, wherein said determining is a cellular assay.
- 20 7. The method of claim 1, wherein said oncogenic E6 protein and said polypeptide are
isolated.
8. An isolated peptide comprising an amino acid sequence corresponding to two
25 contiguous amino acids at the C-terminus of an oncogenic E6 protein.
9. The isolated peptide of claim 1, wherein said peptide no greater than 5 amino acids in
length.
- 30 10. The isolated peptide of claim 1, wherein said peptide contains non-amino acid
moieties bonded to its C- or N-terminus.

11. The isolated peptide of claim 10, wherein said peptide contains a carboxyl, hydroxyl or tetrazole group at its C-terminus and a moiety selected from those shown in Figure 11 at its N-terminus.
- 5 12. The isolated peptide of claim 8, further comprising a cell permeable peptide carrier moiety.
13. The isolated peptide of claim 8, wherein said two contiguous amino acids are at the C-terminus of said isolated peptide.
- 10 14. A pharmaceutical composition comprising:
the isolated peptide of claim 8; and
a pharmaceutically acceptable carrier.
- 15 15. A method of modulating an interaction between a MAGI-1 protein and an oncogenic E6 protein, comprising:
contacting said MAGI-1 protein with an isolated peptide of claim 8.
16. A method of reducing the oncogenicity of an oncogenic strain of HPV in a cell,
20 comprising:
reducing binding of an E6 protein of said HPV to a MAGI-1 protein of said cell.
17. The method of claim 16, wherein said cell is a cell in vitro.
- 25 18. The method of claim 16, wherein said cell is a cell in vivo.
19. The method of claim 16, wherein said reducing binding is done by contacting said E6 protein with a peptide of claim 8.
- 30 20. A method of treating a cancer associated with HPV infection, comprising,
administering to a subject in need thereof the pharmaceutical composition of claim 14.

21. The method of claim 20, wherein said subject has cervical cancer, uterine cancer, anal cancer, colorectal cancer, penile cancer, oral cancer, skin cancer or esophageal cancer.
22. A kit comprising,
5 the isolated peptide of claim 8; and
instructions for using said peptide to treat a cancer associated with HPV infection.